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**Immersion Corporation**

**UNITED STATES DISTRICT COURT**  
**NORTHERN DISTRICT OF CALIFORNIA**  
**SAN JOSE DIVISION**

IMMERSION CORPORATION,  
  
Plaintiff,  
  
v.  
  
FITBIT, INC.,  
  
Defendant.

) Case No. 5:17-cv-03886-LHK  
)  
) **PLAINTIFF IMMERSION**  
) **CORPORATION'S OPENING**  
) **CLAIM CONSTRUCTION BRIEF**  
)  
) **[Declaration of Dr. Sigurd Meldal**  
) **filed herewith]**  
)  
) DATE: May 10, 2018  
) TIME: 1:30 p.m.  
) CTRM: Courtroom 8, 4th Floor  
)  
) JUDGE: Honorable Lucy H. Koh  
)

## TABLE OF CONTENTS

	<u>Page(s)</u>
I. INTRODUCTION.....	1
II. JUDICIAL ESTOPPEL .....	2
III. TERMS WITH AGREED CONSTRUCTIONS .....	4
IV. DISPUTED CLAIM TERMS .....	4
A. “one or more processors configured to receive an input signal and generate a force signal based on the input signal, wherein the input signal is associated with a user-independent event” ( <i>’105 patent, claim 19</i> ).....	4
1. Legal Standard .....	6
2. Fitbit cannot prove by clear and convincing evidence that this term is indefinite. ....	6
B. “generate a force signal based on the input signal” ( <i>’105 patent, claim 19</i> ) .....	10
C. “periodic” ( <i>’299 Patent, claim 14</i> ).....	11
D. “a processing device that receives the sensor output and accumulates counts associated with the sensor output, the processing device providing an output to the vibrotactile device once a threshold associated with the accumulated counts is reached.” ( <i>’299 patent, claim 14</i> ) .....	13
V. CONCLUSION .....	17

**TABLE OF AUTHORITIES****Page(s)****CASES**

<i>Alfred E. Mann Found. for Sci. Research v. Cochlear Corp.</i> , 841 F.3d 1334 (Fed. Cir. 2016).....	17
<i>AllVoice Computing PLC v. Nuance Commc'ns, Inc.</i> , 504 F.3d 1236 (Fed. Cir. 2007).....	5, 6, 10, 15
<i>e-LYNXX Corp. v. Innerworkings, Inc.</i> , No. 1:10-CV-2535, 2012 WL 4484921 (M.D. Pa. Sept. 27, 2012).....	7
<i>Finjan, Inc. v. Sophos, Inc.</i> , No. 14-CV-01197-WHO, 2015 WL 890621 (N.D. Cal. Mar. 2, 2015).....	7
<i>Finjan, Inc. v. Symantec Corp.</i> , No. 14-CV-02998-HSG, 2017 WL 550453 (N.D. Cal. Feb. 10, 2017).....	7, 10
<i>Hamilton v. State Farm Fire &amp; Cas. Co.</i> , 270 F.3d 778 (9th Cir. 2001) .....	3
<i>Johnson v. Oregon</i> , 141 F.3d 1361 (9th Cir. 1998) .....	3
<i>New Hampshire v. Maine</i> , 532 U.S. 742 (2001).....	3
<i>Phillips v. AWH Corp.</i> , 415 F.3d 1303 (Fed. Cir. 2005).....	11
<i>Quanergy Sys. Inc. v. Velodyne Lidar, Inc.</i> , No. 16-cv-05251-EJD, 2017 WL 4410174 (N.D. Cal. Oct. 4, 2017) .....	6
<i>Rembrandt Data Techs., LP v. AOL, LLC</i> , 641 F.3d 1331 (Fed. Cir. 2011).....	10
<i>Rissetto v. Plumbers and Steamfitters Local 343</i> , 94 F.3d 597 (9th Cir. 1996) .....	3
<i>Seer Sys., Inc. v. Beatnik, Inc.</i> , No. C 03-04636-JSW, 2006 WL 733502 (N.D. Cal. Mar. 22, 2006).....	10
<i>Thorner v. Sony Computer Entertainment America LLC</i> , 669 F.3d 1362 (Fed. Cir. 2012).....	12, 13

1	<i>Typhoon Touch Techs., Inc. v. Dell, Inc.</i> ,	
2	659 F.3d 1376 (Fed. Cir. 2011).....	5, 6, 9, 10
3	<i>Wyler Summit P’ship v. Turner Broad. Sys.</i> ,	
4	235 F.3d 1184 (9th Cir. 2000) .....	3

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Pursuant to Patent Local Rule 4-5(a) and the Case Management Order (Dkt. 35), Plaintiff Immersion Corporation (“Immersion”) hereby submits its Claim Construction Opening Brief and accompanying declaration of Dr. Sigurd Meldal regarding U.S. Patent Nos. 8,059,105 (“105 Patent”) and 8,351,299 (“299 Patent”).

## **I. INTRODUCTION**

There are four disputed claim terms. Two of these are means plus function terms that Fitbit now asserts are indefinite. Fitbit’s indefiniteness position is fundamentally at odds with the position it took on the same patents and claims in its petitions for Inter Partes Review (“IPR”) before the Patent Trial and Appeal Board (“PTAB”). There, Fitbit necessarily took the position that the terms were neither governed by § 112(6) nor indefinite—for good reason: had it asserted the claims were indefinite, its IPR petitions could have been denied. Fitbit is taking contradictory positions before different tribunals to work an unfair advantage, getting the benefit of both an IPR and arguing indefiniteness in this Court. If the IPR is instituted, Fitbit should be judicially estopped from asserting indefiniteness here. In all events, its opposite position before the PTAB undercuts the legitimacy of the position it is taking before this Court.

Fitbit’s position before the PTAB is unsurprising because the specification describes the scope of the claims. Fitbit’s indefiniteness argument ignores the description of the claimed embodiments in the specification, which are more than sufficient for a person of ordinary skill in the art to understand their scope. The case law is clear that terms such as a processor receiving an input do not require extensive structure. And Fitbit cannot meet its burden of demonstrating that the remaining structure in the specification would not be recognized by a person of ordinary skill. Immersion has submitted the declaration of an expert witness explaining how such structure is readily recognizable. Fitbit cannot satisfy its burden of proving the claims indefinite by clear and convincing evidence.

The third claim term Fitbit seeks to have construed, “generate a force signal based on the input signal,” is imbedded in one of the means plus function terms discussed above, for which

1 Immersion has asked the Court to identify a function and structure. There is no factual or legal basis  
2 for an additional, duplicative construction.

3 Fourth, Fitbit attempts to improperly limit the term “periodic” to “occurring at *regular* time  
4 intervals,” excluding embodiments occurring at *irregular* time intervals. As shown below, Fitbit’s  
5 construction is not supported by the intrinsic or extrinsic evidence, and Fitbit can point to no attempt  
6 by Immersion to limit the term in the specification or prosecution history.

## 7 **II. JUDICIAL ESTOPPEL**

8 Fitbit takes the position in these proceedings that the two disputed “processor” terms  
9 identified below<sup>1</sup> are indefinite. This position is fundamentally at odds with Fitbit’s position before  
10 the PTAB. Fitbit was required to identify in its petition for IPR any term governed by § 112(6) and  
11 its corresponding structure. See 37 CFR 42.104; *Kingston Tech. Co. Inc., v. SPEX Tech., Inc.*, IPR  
12 2017-00824, P. 8 (Aug. 17, 2017) (declining to institute IPR because petitioner did not identify the  
13 corresponding structure for a means plus function term). Fitbit made the choice to not argue to the  
14 PTAB that these terms are governed by § 112(6) so it would not be forced to identify a structure. If  
15 Fitbit identified a structure, it would be conceding to this Court that the term is not really indefinite.  
16 If Fitbit told the PTAB there was no corresponding structure, the PTAB presumably may have  
17 rejected Fitbit’s petition. See, e.g., *Space Exploration Tech. Corp. v. Blue Origin LLC*, IPR2014-  
18 01378, P. 6 (Mar. 3, 2015) (declining to institute IPR because the terms lacked definite structure).  
19 Thus, Fitbit made a calculated decision to take the positions (1) before the PTAB that these terms are  
20 *not* governed by § 112(6) and *not* indefinite, and (2) before this Court that these terms are governed  
21 by § 112(6) and indefinite. These positions cannot be reconciled.

22 Should the PTAB institute an Inter Partes Review of the asserted claims of the ’105 Patent  
23 and ’299 Patent, then the PTAB will have relied on Fitbit’s position that these claims are not  
24 indefinite, and Fitbit should be judicially estopped from asserting these terms are indefinite in this  
25 Court.

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28 <sup>1</sup> These are discussed in sections IV(A) and (D) below.

The Supreme Court has held that judicial estoppel applies where a party takes a position that is “clearly inconsistent with its earlier position”; has “succeeded in persuading a court to accept that party’s earlier position”; and “would derive an unfair advantage or impose an unfair detriment on the opposing party if not estopped.” *New Hampshire v. Maine*, 532 U.S. 742, 750-51 (2001); *see Rissetto v. Plumbers and Steamfitters Local 343*, 94 F.3d 597, 601, 604 (9th Cir. 1996) (holding that a representation to an administrative agency can be the basis for judicial estoppel). The Ninth Circuit additionally considers the intention of the party, explaining that “[j]udicial estoppel applies when a party’s position is tantamount to a knowing misrepresentation to or even fraud on the court.” *Johnson v. Oregon*, 141 F.3d 1361, 1369 (9th Cir. 1998) (internal quotation marks omitted). That is, “[t]he doctrine of judicial estoppel requires, *inter alia*, a knowing antecedent misrepresentation by the person or party alleged to be estopped and prevents the party from tendering a contradictory assertion to a court.” *Wyer Summit P’ship v. Turner Broad. Sys.*, 235 F.3d 1184, 1191 (9th Cir. 2000). The courts of the Ninth Circuit “invoke [] judicial estoppel not only to prevent a party from gaining an advantage by taking inconsistent positions, but also because of general considerations of the orderly administration of justice and regard for the dignity of judicial proceedings, and to protect against a litigant playing fast and loose with the courts.” *Hamilton v. State Farm Fire & Cas. Co.*, 270 F.3d 778, 782 (9th Cir. 2001) (internal quotation marks omitted). Judicial estoppel is applicable both when a party takes inconsistent positions within a single litigation and when a party takes inconsistent positions in two separate legal actions. *See id.* at 783.

At this point, Fitbit satisfies three of the four requirements for judicial estoppel. First, Fitbit’s position before the PTAB that these terms are not governed by § 112(6) or indefinite is plainly inconsistent with its position before this Court that these terms are governed by § 112(6) and indefinite. Second, Fitbit knowingly and intentionally took these contradictory positions. Fitbit can point to no difference in legal standard justifying its inconsistent position. Further, 37 CFR 42.104 required Fitbit to identify terms governed by § 112(6) and the corresponding structure in its petition. Fitbit elected not to do so. Third, Fitbit gains an unfair advantage from its inconsistent arguments; it gains the litigation advantage of an IPR while also arguing indefiniteness in district court.

The final requirement for judicial estoppel is the previous tribunal's reliance on the inconsistent positions. If the PTAB institutes review of Immersion's claims in reliance on Fitbit's position that the claims are not indefinite and thus within the purview of the PTAB, then Fitbit should be judicially estopped from taking the opposite position before this Court.

### III. TERMS WITH AGREED CONSTRUCTIONS

The parties have agreed that the following terms shall be accorded their plain and ordinary meaning.

U.S. Patent No.	Claim Term	Agreed Upon Construction
8,059,105	"user-independent event" (Claim 19)	Plain and ordinary meaning
8,059,105	"haptic feedback device" (Claim 19)	"A device that provides haptic feedback"

### IV. DISPUTED CLAIM TERMS

- A. "one or more processors configured to receive an input signal and generate a force signal based on the input signal, wherein the input signal is associated with a user-independent event" ('105 patent, claim 19)

Plaintiff's Proposed Construction	Defendant's Proposed Construction
<p>This term is governed by 35 U.S.C. § 112(6).</p> <p><u>Function:</u> "receive an input signal and generate a force signal based on the input signal, wherein the input signal is associated with a user-independent event"</p> <p><u>Structure:</u> A microprocessor or other electronic controller, and equivalents thereof, that performs the algorithm of receiving an input signal associated with a user-independent event, and generating one or more electronic signals that define the form of a haptic effect based on the user-independent event applied to a touch device</p>	<p>The limitation is an indefinite means plus function limitation.</p> <p><u>Function:</u> "receive an input signal and generate a force signal based on the input signal, wherein the input signal is associated with a user-independent event"</p> <p><u>Structure:</u> The corresponding structure for "one or more processors" is a microprocessor or other electronic controller, or equivalents thereof. It is Fitbit's position that the specification fails to disclose a sufficiently-specific algorithm for carrying out the function on the microprocessor or other electronic controller, such that the claim term is</p>



	indefinite.
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The parties agree that (1) this claim term is governed by 35 U.S.C. § 112(6),<sup>2</sup> (2) the claimed function is to “receive an input signal and generate a force signal based on the input signal, wherein the input signal is associated with a user-independent event,” and (3) the corresponding structure has the hardware component of “a microprocessor or other electronic controller, and equivalents thereof.” The parties dispute whether this term is indefinite for lack of corresponding structure in the specification.

To invalidate Immersion’s claim, Fitbit must show by *clear and convincing evidence* that “a person of ordinary skill in the art *would be unable to recognize the structure* in the specification and associate it with the corresponding function in the claim.” *AllVoice Computing PLC v. Nuance Commc’ns, Inc.*, 504 F.3d 1236, 1241, 1245 (Fed. Cir. 2007) (emphasis added). Fitbit cannot satisfy this heavy burden in light of its position before the PTAB that this term is not indefinite. A person of ordinary skill in the art would recognize that the specification repeatedly describes the structure for receiving an input signal associated with a user-independent event, such as an email, and outputting a haptic effect based on that input signal. The Federal Circuit has held similar algorithms to be sufficiently definite. *See, e.g., AllVoice*, 504 F.3d at 1241-42 (receiving as input a word recognized by speech-recognition software and outputting the word to one of a plurality of different applications is a sufficiently definite structure); *Typhoon Touch Techs., Inc. v. Dell, Inc.*, 659 F.3d 1376, 1385-86 (Fed. Cir. 2011) (algorithm for receiving a user’s response to an inquiry, and if a match existed for the response in a library of potential responses, executing an action, is a sufficiently definite structure).

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<sup>2</sup> As discussed *supra*, Fitbit in substance took the opposite position before the PTAB.

1                   **1.       Legal Standard**

2           If a particular claim term is governed by 35 U.S.C. § 112(6), its construction has two steps.

3           “First, the court must determine the claimed function. Second, the court must identify the

4           corresponding structure in the written description of the patent that performs the function.” *AllVoice*,

5           504 F.3d at 1240 (internal citations omitted). “When a defendant challenges a means-plus-function

6           term as indefinite, indefiniteness must be proven by ‘clear and convincing evidence.’” *Quanergy*

7           *Sys. Inc. v. Velodyne Lidar, Inc.*, No. 16-cv-05251-EJD, 2017 WL 4410174, at \*4 (N.D. Cal. Oct. 4,

8           2017) (quoting *i4i*, 564 U.S. at 102). “All one needs to do in order to obtain the benefit of that

9           claiming device is to recite some structure corresponding to the means in the specification, as the

10          statute states, so that one can readily ascertain what the claim means and comply with the

11          particularity requirement of ¶ 2.” *Typhoon Touch*, 659 F.3d at 1384. “The requirement of specific

12          structure in § 112, ¶ 6 thus does not raise the specter of an unending disclosure of what everyone in

13          the field knows that such a requirement in § 112, ¶ 1 would entail.” *Id.* “Precedent and practice

14          permit a patentee to express that procedural algorithm in any understandable terms including as a

15          mathematical formula, in prose, or as a flow chart, or in any other manner that provides sufficient

16          structure.” *Id.* at 1385 (internal citations omitted).

17                   **2.       Fitbit cannot prove by clear and convincing evidence that this term is**

18                   **indefinite.**

19           A person of ordinary skill in the art would understand the structure corresponding to “receive

20           an input signal and generate a force signal based on the input signal, wherein the input signal is

21           associated with a user-independent event” is “a microprocessor or other electronic controller, and

22           equivalents thereof, that performs the algorithm of receiving an input signal associated with a user-

23           independent event, and generating one or more electronic signals that define the form of a haptic

24           independent event, and generating one or more electronic signals that define the form of a haptic

25           independent event, and generating one or more electronic signals that define the form of a haptic

26           independent event, and generating one or more electronic signals that define the form of a haptic

27           independent event, and generating one or more electronic signals that define the form of a haptic

28           independent event, and generating one or more electronic signals that define the form of a haptic

1 effect based on the user-independent event applied to a touch device.” Declaration of Dr. Sigurd  
2 Meldal (“Meldal Decl.”), at pages 6-9.

3 *First*, Fitbit cannot reasonably argue that a person of ordinary skill in the art would not know  
4 how to receive an input signal associated with a user-independent event, such as an email, given that  
5 courts have repeatedly held that an algorithm is not required to disclose how a processor performs  
6 the function of receiving an input. *See, e.g., Finjan, Inc. v. Symantec Corp.*, No. 14-CV-02998-HSG,  
7 2017 WL 550453, at \*7 (N.D. Cal. Feb. 10, 2017) (receiving downloadable as input does not require  
8 an algorithm); *Finjan, Inc. v. Sophos, Inc.*, No. 14-CV-01197-WHO, 2015 WL 890621, at \*8-9  
9 (N.D. Cal. Mar. 2, 2015) (means for “receiving a downloadable” does not require an algorithm); *e-*  
10 *LYNXX Corp. v. Innerworkings, Inc.*, No. 1:10-CV-2535, 2012 WL 4484921, at \*19 (M.D. Pa. Sept.  
11 27, 2012) (“means for receiving an electronic communication” does not require an algorithm); *see*  
12 *also* Meldal Decl. at pages 6-7.

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15 *Second*, Fitbit cannot prove by clear and convincing evidence that a person of ordinary skill  
16 in the art would be unable to recognize the structure in the specification corresponding to  
17 “generat[ing] a force signal based on the input signal.” *See* Meldal Decl. at pages 7-9. The  
18 specification discloses how to generate a force signal based on a user-independent event:

19 Forces output on the pad can be at least in part based on the location of the finger on  
20 the pad or the state of a controlled object in the graphical environment of the host  
21 computer 10, *and/or independent of finger position or object state*. Such forces output  
22 on the touch pad 16 are considered “computer controlled since a microprocessor or  
other electronic controller *is controlling the magnitude and/or direction of the force  
output of the actuator(s) using electronic signals.*

23 ’105 Patent at 5:9-17 (emphasis added). Dr. Meldal explains a person of ordinary skill in the art  
24 understands that the force output “independent of finger position or object state” is based on a user-  
25 independent event and by controlling the magnitude and/or direction of the force output of the  
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1 actuator, the processor defines the form of the haptic effect, such as whether to produce a vibration  
2 or pulse. Meldal Decl. at pages 7-9.

3 The specification repeatedly discloses that the force signal generated by the processor defines  
4 the form of a haptic effect. *See* Meldal Decl. at page 8; '105 Patent at 6:22-27 (explaining that the  
5 host processor can output “commands including, for example, the type of haptic sensation and  
6 parameters describing the commanded haptic sensation”); 6:19-22 (“The touchpad device also  
7 includes circuitry that receives signals from the host and outputs tactile sensations in accordance  
8 with the host signals using one or more actuators.”); 7:35-39 (“The frequency of vibration output by  
9 an actuator can be varied by providing different control signals to an actuator. Furthermore, the  
10 magnitude of a pulse or vibration can be controlled based on the applied control signal”); 8:18-20  
11 (“The operation of piezo-electric actuators to output force based on an input electrical signal is well  
12 known to those skilled in the art.”).

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15 The specification also discloses numerous forms of haptic effects that may be output. *See*  
16 Meldal Decl. at pages 8-9; '105 Patent at 8:50-52 (“A short pulse or jolt can be output, or the  
17 moving portion of the actuator can be oscillated to provide a vibration having a particular desired  
18 frequency.”); 10:60-64 (“For example, a jolt or “pulse” sensation can be output, which is a single  
19 impulse of force that quickly rises to the desired magnitude and then is turned off or quickly decays  
20 back to zero or small magnitude. A vibration sensation can also be output, which is a time-varying  
21 force that is typically periodic.”); 10:66-11:3 (“The vibration can cause the touchpad 16 or portions  
22 thereof to oscillate back and forth on the z axis, and can be output by a host or local microprocessor  
23 to simulate a particular effect that is occurring in a host application.”); 8:39-42 (“Only a very small  
24 range of motion is required to produce effective pulses (jolts) or vibrations on the pad 16”).

25  
26 Like the claim, the specification provides examples of the types of user-independent events  
27 that can cause these haptic effects: “User-independent events can also be relayed to the user using

1 haptic sensations on the touchpad. An event occurring within the graphical environment, such as an  
 2 appointment reminder, receipt of email, explosion in a game, etc., can be signified using a vibration,  
 3 pulse, or other time-based force.” ’105 Patent at 12:50-54; *see also id.* at 12:56-61 (“[V]ibrations of  
 4 different frequency can each be used to differentiate different events or different characteristics of  
 5 events . . . .”); 13:24-27 (“Force sensations can also be output based on user-independent events in  
 6 the game or simulation, such as pulses when bullets are fired at the user’s character.”).

8 *Third*, in every single embodiment described in the specification, the processor is generating  
 9 a force signal that applies a haptic effect to a touch device. Meldal Decl. at page 9; ’105 Patent at  
 10 Figures 1, 2, 3, 4, 5, 6, 7, 8A, and 8B; 8:30-32 (“Since the touchpad 16 is directly coupled to the  
 11 actuator 42, any produced forces are directly applied to the touchpad.”). Indeed, the title of the patent  
 12 is “Haptic Feedback for Touchpads and Other Touch Controls.” *See also id.* at Abstract (describing  
 13 the invention as “[a] haptic feedback planar touch control used to provide input to a computer.”).

15 *Finally*, Fitbit’s own expert, Dr. Majid Sarrafzadeh, had no trouble identifying the scope of  
 16 the claimed function when he applied it and opined it was present in multiple prior art references in  
 17 support of Fitbit’s petition for Inter Partes Review. *See* Declaration of Jennifer Estremera  
 18 (“Estremera Decl.”), Ex. A at 28-35, 51-56, 63-67. (finding the function “receive an input signal and  
 19 generate a force signal based on the input signal, wherein the input signal is associated with a user-  
 20 independent event” in the prior art). Fitbit cannot satisfy its burden of showing this claim indefinite  
 21 by clear and convincing evidence in light of Dr. Sarrafzadeh’s application of the claim to the prior  
 22 art.

24 The Courts have routinely held similar disclosed algorithms to be sufficiently definite. For  
 25 example, in *Typhoon Touch*, the Federal Circuit upheld the validity of a “means for cross-  
 26 referencing” term because the specification disclosed the sufficiently definite algorithm of receiving  
 27 a user’s response to an inquiry, and if a match existed for the response in a library of potential

1 responses, executing an action. 659 F.3d at 1386. The district court found the term indefinite because  
 2 the specification did not explicitly disclose the algorithm for determining whether a match existed in  
 3 the library of potential responses. *Id.* at 1384. The Federal Circuit reversed the district court,  
 4 explaining that although “the mathematical algorithm of the programmer is not included in the  
 5 specification . . . as precedent establishes, it suffices if the specification recites in prose the algorithm  
 6 to be implemented by the programmer.” *Id.* at 1386. The Court found the claim definite because the  
 7 “defendants have directed us to no evidence that a programmer of ordinary skill in the field would  
 8 not understand how to implement this function.” *Id.* at 1385; *see also AllVoice*, 504 F.3d at 1241-42  
 9 (receiving as input a word recognized by speech-recognition software and outputting the word to one  
 10 of a plurality of different applications is a sufficiently definite structure); *Rembrandt Data Techs.,*  
 11 *LP v. AOL, LLC*, 641 F.3d 1331, 1343 (Fed. Cir. 2011) (receiving bits as input and generating  
 12 frames with equal number of bits as output is a sufficiently definite structure); *Finjan*, 2017 WL  
 13 550453, at \*7 (receiving downloadable as input and generating security profile as output is a  
 14 sufficiently definite structure); *Seer Sys., Inc. v. Beatnik, Inc.*, No. C 03-04636-JSW, 2006 WL  
 15 733502, at \*5 (N.D. Cal. Mar. 22, 2006) (receiving music control signals as input and passing them  
 16 through synthesizer engine to sequencer is a sufficiently definite structure).

17 Thus, Immersion respectfully requests that the Court find this term not indefinite and adopt  
 18 Immersion’s proposed structure.

19 **B. “generate a force signal based on the input signal” (’105 patent, claim 19)**

Plaintiff’s Proposed Construction	Defendant’s Proposed Construction
No construction necessary given agreement term is governed by 112(6).	“generate a signal causing a haptic effect depending on the input signal”

20 This claim term need not be construed because it is wholly included within the preceding  
 21 term that the parties agree is governed by 35 U.S.C. § 112(6). *See* Section VI.A., *supra* (“one or  
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more processors configured to receive an input signal and *generate a force signal based on the input signal*, wherein the input signal is associated with a user-independent event” (emphasis added)). A separate construction for this term would have no relevance in light of the fact that the Court’s 112(6) construction of the function and structure will govern any future application of this claim. Immersion raised this issue with Fitbit, but Fitbit refused to drop this dispute.

Fitbit’s proposed construction is not only unnecessary, but also inconsistent with the parties agreed function of this term and wrong. The parties have agreed that the claimed function is “receive an input signal and generate a force signal based on the input signal.” If Fitbit believed this term required a different construction, it should have identified that construction as the claimed function. Further, Fitbit’s proposal is wrong because it improperly broadens the force signal to include any signal that results in a haptic effect, even if the signal is not sent to an actuator. This contradicts every embodiment of the force signal in the specification. Fitbit’s construction would render the term “force signal” indistinguishable from the “input signal,” which both “cause a haptic effect” – whether directly or indirectly.

Fitbit’s proposal also improperly replaces the requirement that the force signal is generated “based on” the input signal with the requirement that the force signal is generated “depending on” the input signal. To the extent Fitbit maintains there is any difference between “based on” and “depending on,” this difference is unsupported by the claim language. *See Phillips v. AWH Corp.*, 415 F.3d 1303, 1312 (Fed. Cir. 2005) (“we look to the words of the claims themselves . . . to define the scope of the patented invention”) (internal citations omitted). To the extent Fitbit agrees there is no difference between the terms, the construction is unnecessary.

**C. “periodic” (*’299 Patent, claim 14*)**

Plaintiff’s Proposed Construction	Defendant’s Proposed Construction
-----------------------------------	-----------------------------------



Plain and ordinary meaning.

“Occurring at regular intervals”

Fitbit’s proposed construction improperly deviates from the plain and ordinary meaning of periodic by excluding occurrences at *irregular* time intervals, thus it should be rejected. The Federal Circuit set forth the standard for departing from a term’s plain meaning in *Thorner v. Sony Computer Entertainment America LLC*, 669 F.3d 1362, 1365 (Fed. Cir. 2012):

The words of a claim are generally given their ordinary and customary meaning as understood by a person of ordinary skill in the art when read in the context of the specification and prosecution history. There are only two exceptions to this general rule: 1) when a patentee sets out a definition and acts as his own lexicographer, or 2) when the patentee disavows the full scope of a claim term either in the specification or during prosecution.

...

To act as its own lexicographer, a patentee must clearly set forth a definition of the disputed claim term other than its plain and ordinary meaning. It is not enough for a patentee to simply disclose a single embodiment or use a word in the same manner in all embodiments, the patentee must clearly express an intent to redefine the term.

(internal citations omitted). The term “periodic” is commonly understood to encompass occurrences at both regular and irregular intervals, as shown by the intrinsic and extrinsic evidence. Fitbit cannot show that Immersion clearly expressed an intent to depart from this plain meaning in the specification or prosecution history, and so Fitbit’s proposal should be rejected.

The intrinsic evidence shows that the term “periodic” is not limited to occurrences at regular time intervals. For example, the specification provides that people “periodically” replace old toothbrushes. ’299 Patent at 1:27-30. Fitbit cannot reasonably contend that the patentee was stating that people replace old toothbrushes at identical time intervals. The extrinsic evidence also shows that the term “periodic” is commonly understood to encompass both regular and irregular time intervals. For example, the American Heritage Dictionary (4<sup>th</sup> Ed. 2001) defines “periodic” as: “1. Having or marked by repeated cycles. 2. Happening or appearing at regular intervals. 3. *Occasional; intermittent.*” Estremera Decl., Ex. B (emphasis added). Webster’s Encyclopedic Unabridged Dictionary of the English Language (1996) similarly defines periodic as both “occurring or appearing at regular intervals” and “repeated at irregular intervals.” Estremera Decl., Ex. C.



Fitbit selectively cites intrinsic and extrinsic evidence that mentions regular intervals, but not irregular time intervals, and asks this court to draw the conclusion that occurrences at irregular intervals are not considered periodic. But Fitbit cannot cite any explicit statement in the specification, prosecution history, or its extrinsic evidence that shows that “periodic” excludes occurrences at irregular intervals. And as the Federal Circuit explained in *Thorner*: “It is not enough for a patentee to simply disclose a single embodiment or use a word in the same manner in all embodiments, the patentee must clearly express an intent to redefine the term.” 669 F.3d at 1365 (internal citations omitted). Fitbit cannot satisfy this burden.

Thus, Immersion requests that the Court reject Fitbit’s limiting construction and give this term its plain and ordinary meaning.

**D. “a processing device that receives the sensor output and accumulates counts associated with the sensor output, the processing device providing an output to the vibrotactile device once a threshold associated with the accumulated counts is reached.” (’299 patent, claim 14)**

Plaintiff’s Proposed Construction	Defendant’s Proposed Construction
<p>This term is governed by 35 U.S.C. § 112(6).</p> <p><u>Function</u>: “receives the sensor output and accumulates counts associated with the sensor output, and provides an output to the vibrotactile device once a threshold associated with the accumulated counts is reached”</p> <p><u>Structure</u>: Processing device 22 and equivalents thereof, that performs the algorithm in Figure 3 and generating one or more electronic signals that define the form of a haptic effect</p>	<p>The limitation is an indefinite means plus function limitation.</p> <p><u>Function</u>: “receive the sensor output, accumulate counts associated with the sensor output, and provide an output to the vibrotactile device once a threshold associated with the accumulated counts is reached”</p> <p><u>Structure</u>: The corresponding structure for “a processing device” is Processing device 22 and equivalents thereof. It is Fitbit’s position that the specification fails to disclose a sufficiently-specific algorithm for carrying out the function on the Processing device 22 or equivalents thereof, such that the claim term is indefinite.</p>

The parties agree that (1) this claim term is governed by 35 U.S.C. § 112(6),<sup>3</sup> and (2) the corresponding structure has the hardware component of “processing device 22 and equivalents

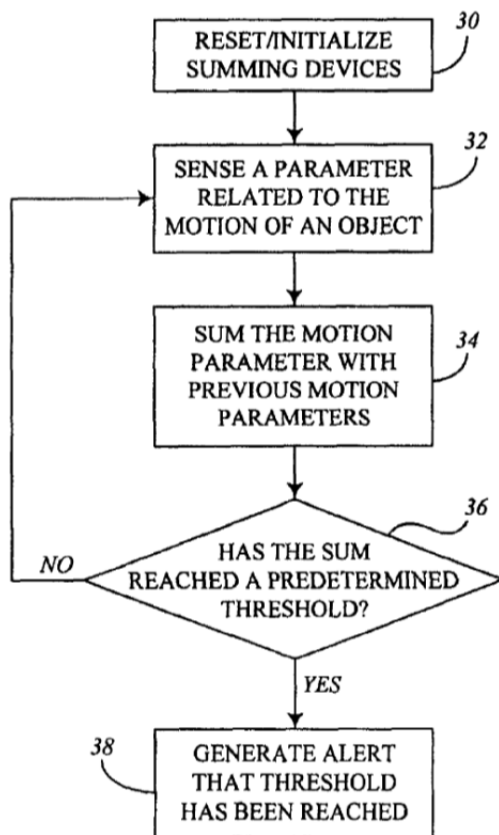
<sup>3</sup> As discussed *supra*, Fitbit in substance took the opposite position before the PTAB.

1 thereof.” The parties dispute whether this term is indefinite for lack of corresponding structure in the  
2 specification.

3 Fitbit cannot satisfy its burden of proving by clear and convincing evidence that this term is  
4 indefinite. A person of ordinary skill in the art would understand the structure corresponding to  
5 “receives the sensor output and accumulates counts associated with the sensor output, and provides  
6 an output to the vibrotactile device once a threshold associated with the accumulated counts is  
7 reached” is performing the algorithm in Figure 3 and generating one or more electronic signals that  
8 define the form of a haptic effect.

9 A person of skill in the art would recognize Figure 3 as the corresponding algorithm that  
10 shows how the processor should receive the sensor output (block 32, by sensing a parameter related  
11 to the motion of an object), accumulates counts associated with the sensor output (block 34, by  
12 summing the motion parameter with previous motion parameters), and then generate an alert once a  
13 threshold associated with the accumulated counts is reached (blocks 36 and 38, by determining  
14 whether the sum reached a predetermined threshold and then generating an alert):

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**FIG. 3**

'299 Patent at Fig. 3. This five-step flow chart is exactly the type of algorithm the Federal Circuit has found satisfies § 112(2). *See AllVoice*, 504 F.3d at 1245 (holding that flow chart and corresponding text “contain[ed] sufficient algorithmic structure to give meaning to [the] claims”)

With respect to claimed function of “receiv[ing] the sensor output,” the specification further discloses:

“[I]n block 32, a parameter related to the motion of an object is sensed. The sensed motion parameter can be detected by any suitable type of detection device capable of sensing vibration, oscillation, rotation, acceleration, or other parameter related to motion or change of motion. In some embodiments, the sensed motion parameter can be converted to an electrical signal if necessary.”

'299 Patent at 6:53-59.

With respect to the claimed function of “accumulat[ing] counts associated with the sensor output,” the specification further discloses:

“In block 34, the motion parameter that is sensed in block 32 is summed with previously sensed motion parameters. This summation procedure creates a running total or accumulative amount associated with the motion parameter being sensed. The motion parameter may include a count of the number of strokes that the user exerts on the object. In other embodiments, the motion parameter being sensed may be a stroke force or stroke length, wherein an accumulation of forces or lengths is summed in block 34. In some embodiments, the accumulation may involve the building up of an electrical charge, such as for charging up a capacitor.”

*Id.* at 6:53-59.

With respect to generating an alert once a threshold associated with the accumulated counts is reached, the specification further discloses:

“[In] block 36, it is determined whether or not the sum has reached a predetermined threshold. When it is determined that the threshold has not been reached, the method flows back to block 32 to continue sensing additional components of the motion parameter. Eventually, when it is determined in block 36 that the threshold is reached, the method proceeds to block 38, which suggests that an alert is generated to notify the user that the threshold has been reached.”

*Id.* at 7:4-12. In light of the clear parallels between Figure 3 and the claim language, a person of ordinary skill in the art could easily identify the algorithm in Figure 3 as part of the corresponding structure for this claimed function. Meldal Decl. at pages 11-13. Dr. Meldal explains that a person of ordinary skill in the art would understand how to implement each of the steps in this algorithm. *Id.*

Finally, a person of ordinary skill in the art would recognize that for the claimed embodiment, the alert generated in the last step of Figure 3 is an electronic signal that defines the form of a haptic effect. *Id.* at 13. The parties agree that the claimed function requires “provid[ing] an output to the vibrotactile device” and that Processor 22 is part of the corresponding structure for this function. The specification discloses that Processor 22’s output to the vibrotactile device defines the form of the haptic effect:

Processing device 22 processes the sensor output from sensor 410 and upon an occurrence of one or 60 more conditions associated with the sensor output, provides an output to a vibrotactile device 420. Vibrotactile device 420 provides a haptic output (i.e., a haptic effect) to a user of device 400 . . . According to various embodiments, haptic output may include one or more of eccentric rotating mass actuators 65 or linear resonant arrays and other haptic effects as would be appreciated. In some embodiments, the duration of the haptic output may be adjustable by a user or by processing device 22 based on one or more factors as would be appreciated. In some embodiments, a magnitude of the haptic output may be adjustable by a user or by processing device 22 based on one or more factors as would be appreciated.

1 *Id.* at 7:59-8:5. A person of ordinary skill in the art understands that by varying the “duration” or  
2 “magnitude” of the haptic output, Processing Device 22 defines the form of a haptic effect. Meldal  
3 Decl. at page 13.

4 *Finally*, Fitbit’s own expert, Dr. Majid Sarrafzadeh, had no trouble identifying the scope of  
5 the claimed function when he applied it and opined it was present in multiple prior art references in  
6 support of Fitbit’s petition for Inter Partes Review. *See* Estremera Decl., Ex. D at 56-61 (finding the  
7 claimed function in the prior art). Fitbit cannot satisfy its burden of showing this claim indefinite by  
8 clear and convincing evidence in light of Dr. Sarrafzadeh’s application of the claim to the prior art.  
9

10 Courts have repeatedly upheld similar algorithms. As noted in Section IV.A. *supra*,  
11 numerous courts have held that (1) a more elaborate algorithm is not required for the simple function  
12 of receiving an input and (2) algorithms for a processor receiving an input and generating an output  
13 based on the input are sufficiently definite. Further, the Federal Circuit has held that algorithms  
14 calling for simple arithmetic calculations, such as the summing and comparing in Figure 3, are  
15 sufficient under the indefiniteness standard. *Alfred E. Mann Found. for Sci. Research v. Cochlear*  
16 *Corp.*, 841 F.3d 1334, 1345 (Fed. Cir. 2016) (holding that algorithm calling for microprocessor to  
17 apply Ohm’s law was sufficient because Ohm’s law is ratio of voltage to current).

## 18 **V. CONCLUSION**

19 For the foregoing reasons, Immersion respectfully requests that the Court adopt its proposed  
20 constructions of the disputed claim terms.  
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